North American Drought Monitor – February 2007

CANADA: Conditions remained relatively unchanged from previous months; drought is still a concern in the southern prairies and northwestern Ontario. Slight improvements have occurred in southern British Columbia, northern British Columbia, northern Alberta, and southwestern Saskatchewan. At the same time some regions have seen minor deterioration due to below to well below precipitation in February. These regions include northwest Ontario, central Ontario and portions of Atlantic Canada. As spring approaches and winter snow fall begins to melt, conditions should improve in most regions, however significant precipitation will still be required for some regions to return to a normal condition.

British Columbia (B.C.): Overall conditions across the province continued to improve. Following well above normal precipitation through the fall and early winter, the past couple months have been near normal or even slightly below normal in most regions of the province. However, due to significantly above normal snow accumulations in previous months, improvements in soil moisture and stream flows are expected once the snow begins to melt. Both high elevation and lower elevation snow packs are at record or near-record depths. Record snow packs have been reported for some of locations along the Mid Coast and North coast, as well as in the Skeena, Bulkley and Nechako basins. A few areas have near normal snowpacks (Okanagan, Kootenay), but there are no areas of B.C. with below normal snowpacks. The River Forecast Centre is forecasting well above normal spring runoff in many basins, including the major Interior basins and the potential for flooding in some areas. A small portion of northeastern B.C. remains classified in a D0 or D1 classification as a result of extremely high soil moisture deficits throughout last summer and fall. We anticipate these conditions to improve significantly once the above (130-150% of normal) normal snow pack begins to melt.

Alberta: Snow accumulations in the mountain areas of southern Alberta and central Alberta have generally been average to above-average throughout the winter. The Bow, Kananaskis, North Saskatchewan and Red Deer River basins, in central Alberta, have seen snow accumulations well above average. Well above average February precipitation occurred in the northwest with reports showing the Peace region received 80-110mm in the past two months. Much of this region still remains in a D0 or D1 classification due to the extreme moisture deficits at the end of the 2006 season. As spring approaches it is anticipated that this region will be back in a normal classification soon. The southwest also received well above normal precipitation throughout February. The southeast region remains dry with little precipitation recorded in February. With very little snow cover to add to moisture levels in the spring, drought concerns are prevalent in this region. This region remains in a D0-D1 classification. Despite the low soil moisture and low snow accumulation this winter, water storage in this region is expected to be normal to above normal. Preliminary predictions forecast below average runoff for southern and northern regions, and above average for central regions and the Peace.

Saskatchewan: The current snowpack conditions vary widely across the Province. Southern portions have received below normal precipitation throughout the winter

months (lowest in southwestern areas), while central and northern portions have received above to well above normal precipitation (highest in the Saskatoon - Prince Albert area). This pattern is unfortunately the same as the soil moisture conditions at the time of freeze up. Areas that were wet going into the winter received above to well above normal precipitation while areas that were dry and could really use the extra precipitation received below average accumulations. Most of the southern part of the province has had below average snow accumulations (between 35 to 65% of normal) with the southwest remaining an area of concern for continued drought conditions. This region has been classified as a D0 or D1 on the map.

Manitoba: Throughout the province, snow conditions to date are about average in most areas. Mid-February snow surveys showed the water content of the snowpack was average to below average in most areas of southern Manitoba. Substantial snowfall at the end of February has increased the snow cover to somewhat above average in some portions of southern Manitoba, but southeastern and southwestern portions still have below average snow cover. Following one of the driest summers on record and a dry fall, especially in the southern and eastern areas, average to above average snowpack is required to recharge soil moisture and refill reservoirs. With the current snow pack and normal precipitation throughout the spring there is good potential for some or full recharge and recovery of soil moisture and dugouts.

Ontario: Northwest Ontario continued to receive minimal winter precipitation throughout the month of February. This has generated concern that drought conditions will persist into the spring of 2007. This region remained the driest area of the country, recording between 40 to 65% of normal precipitation in February. The classification for this region remained relatively unchanged from previous months with the exception of the abnormally dry region being expanded eastward and a small region of moderate drought being added in the eastern portion of the province. Without well above average precipitation inputs over the next couple months, the prospects will not be favorable for the 2007 season.

Quebec: The mild temperatures and dry conditions that prevailed in Quebec early in the winter moved aside and temperatures became more seasonable throughout January and February. Significant snowfall events in February finally provided adequate precipitation to ease some early concerns over possible moisture deficits. At this time there is little concern for drought.

Atlantic Canada: Dry conditions persisted in much of Atlantic Canada in February. Precipitation anomalies showed that most of Nova Scotia, Prince Edward Island, southern New Brunswick and small portions of Newfoundland received below 50% of normal. For much of this region, this represents the fourth consecutive month with below normal conditions and the second consecutive month with precipitation below 50% of normal. Until recently there were few expected impacts of low precipitation, however as a result of the lack of precipitation in the past two months, some concerns over spring moisture conditions are starting to arise. As spring approaches soil moisture conditions will be determined greatly by the speed of the melt of the snow pack.

Acknowledgements
We acknowledge and thank the following organizations whose reports and assessments are consulted to produce the Canadian portion of the North American Drought Monitor:
AAFC-PFRA District and Regional Offices
Alberta Environment
Alberta Agriculture, Food and Rural Development
B.C Ministry of Environment – River Forecast Centre
Environment Canada
Manitoba Hydrologic Forecast Centre
Natural Resources Canada – Canadian Forest Service
Ontario Ministry of Natural Resources – Low Water Response
Saskatchewan Agriculture, Food and Rural Revitalization
Saskatchewan Watershed Authority

UNITED STATES: In February wet conditions continued across the northern Plains, but dry conditions returned to the southern Plains. Dry conditions were also prevalent across the Southeast and northward along the entire East Coast, the upper Midwest, and the Southwest. Snowpack in the Nevada and Arizona mountains averaged less than 50% of normal. Rain-fed pastures, ranges, and wildlife suffered in most dry areas, and wildfire danger increased, especially in southern California.

The precipitation pattern in Alaska was generally dry, with several interior stations remaining below normal for the last few months. Mountain snowpack at the end of the month was less than 70% of normal from central interior Alaska to the north and east. Hawaii and the southern half of Puerto Rico remained abnormally dry. Less than 60% of normal precipitation has been observed for the last six months across the southern and southeastern portions of Puerto Rico.

Changes to the drought depiction from the end of January to the end of February included an expansion of the D0 areas in the Southeast, a slight improvement from D2 to D1 in Florida, introduction of D1 in the central Appalachians, and expansion of D0 into northern California, Nevada and Utah. Areas of D0 contracted in northern Montana and were eliminated in Iowa and southern Minnesota.

MEXICO: In February wet conditions occurred across the central and eastern parts of country, most of coast of the Gulf of Mexico, and the Yucatan peninsula. Dry conditions occurred across the rest of the country. However, the total precipitation accumulated during the month was 21.2 mm; the observed accumulation was 16% above normal (18.3 mm).

Warm temperature at the end of the month in the northern part of the country caused melting of the snowpack in the Chihuahua and Durango mountains and filled regional dams. Dry conditions in the south and western region of Mexico increased wildfire risk, especially in Chiapas, Oaxaca and Jalisco states.

The precipitation and temperature distributions introduced some changes to the drought depiction across Mexico. Baja California Peninsula continued with abnormally dry conditions (D0) to severe drought (D2) in the central and northern parts of the region. Moderate (D1) to severe (D2) drought conditions extended across Sonora and Sinaloa. Abnormally dry conditions (D0) expanded to the west and south of Coahuila state, and the dry area in the southwest of the state intensified from moderate (D1) to severe (D2) drought conditions. The hydrological drought D1 extended in Sinaloa, Nayarit and western part of Jalisco, and became stronger to D2 in southern part of Sinaloa and Nayarit. Severe (D2) drought conditions were reestablished in Chiapas. In spite of the dry area, the central part of the country showed improvement, and the western and southern parts of Puebla and Tlaxcala continued with moderate to severe drought conditions. Except for the northern part, plentiful rains eliminated the dry areas along the coast of the Gulf of Mexico.